

## Chautauqua County

### Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/3/14

12 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Chautauqua County economy.<sup>1</sup>

These 12 sectors have a total direct output of approximately \$88 million and support 365.9 jobs in Chautauqua County. Running the model for all 12 sectors simultaneously produces the following results:

Agriculture Contribution in Chautauqua Co						
Impact Type <sup>2</sup>	Employment	% Employment	Total Value Added <sup>3</sup>	% of Gross Regional Product <sup>4</sup>	Output <sup>5</sup>	% of Gross Regional Product
Direct Effect	365.9	15%	15,923,345.7	15%	88,309,400.2	83%
Indirect Effect	29.3	1%	2,921,117.9	3%	4,864,118.8	5%
Induced Effect	28.0	1%	1,856,136.7	2%	2,999,736.2	3%
Total Effect	423.2	18%	20,700,600.2	20%	96,173,255.2	91%

As shown in the above table, agriculture, food, and food processing supports 423.2 jobs, or 18% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$96 million, roughly 91% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 12 agriculture, food, and food processing sectors is approximately \$21 million, or 20% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 20% of the total economy.

<sup>1</sup> Article on building a contribution analysis in IMPLAN that avoids double counting:

[http://www.implan.com/index.php?option=com\\_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70](http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70)

<sup>2</sup> Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

<sup>3</sup> Value added = labor income + indirect business taxes + other property type income.

<sup>4</sup> GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

<sup>5</sup> Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Cattle ranching and farming is the top employer in the agriculture industry with 203.7 employees. This table also shows the amount of jobs that are created by the agriculture industry in Chautauqua County.

Description	Total Employment	Total Output
Cattle ranching and farming	203.7	30,174,470.2
Animal production, except cattle and poultry and eggs	73.3	3,511,944.8
Other animal food manufacturing	31.3	44,615,204.5
Grain farming	19.3	1,061,599.1
Dairy cattle and milk production	13.9	2,665,947.6
All other crop farming	10.5	3,612,579.3
Oilseed farming	6.3	965,602.8
Real estate establishments	6.3	823,902.8
Wholesale trade businesses	4.8	970,278.0
Monetary authorities and depository credit intermediation activities	3.6	1,173,028.1

The Other animal food manufacturing industry directly contributes approximately \$45 million to Chautauqua County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Description	Total Employment	Total Output
Other animal food manufacturing	31.3	44,615,204.5
Cattle ranching and farming	203.7	30,174,470.2
All other crop farming	10.5	3,612,579.3
Animal production, except cattle and poultry and eggs	73.3	3,511,944.8
Dairy cattle and milk production	13.9	2,665,947.6
Monetary authorities and depository credit intermediation activities	3.6	1,173,028.1
Grain farming	19.3	1,061,599.1
Electric power generation, transmission, and distribution	1.5	1,033,997.7
Wholesale trade businesses	4.8	970,278.0
Oilseed farming	6.3	965,602.8

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Chautauqua County's economy.

[illegible]

All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.